29 APRIL 2022

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FYI Resources Activity Report for the quarter ended 31 March 2022

Key points

- **FYI and Alcoa joint developed HPA project progresses as per 3 Stage schedule**
- **Completion of major project gateway Stage 1 in May**
- **Joint HPA pilot plant trials concluded successfully**
- **Outstanding results received from pilot plant testwork**
- **Appointment of key advisor to FYI Board**
- **Downstream enhanced HPA anode development achieves success**
- **HPA included in National Critical Minerals list**
- **FYI achieves DTC registration in the US**

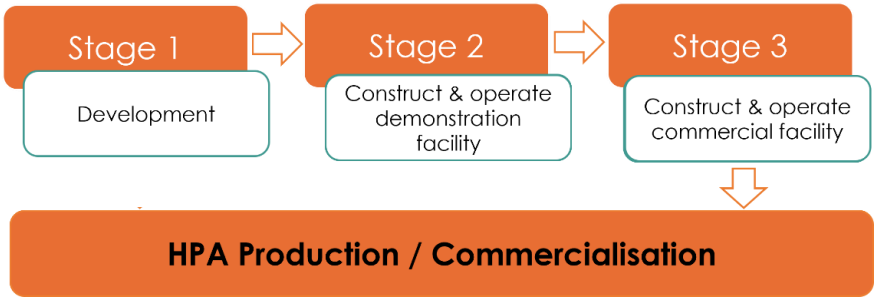
FYI Resources Ltd (ASX: FYI) ("**FYI**" or "**Company**") is pleased to release its Activities Report for the quarter ending 31 March 2022 (**Quarter**).

FYI has successfully developed an innovative process design for the integrated production of high quality, high purity alumina (HPA). This low carbon emission process is now progressing towards being commercialised in joint development with the world's leading alumina producer, Alcoa of Australia Ltd (**Alcoa**) and to be fully funded by their capital commitment of US$243m as per binding Terms Sheet.

FYI and Alcoa Joint HPA Project Development

In October 2021, FYI and Alcoa signed a binding Term Sheet for the joint development of FYI's innovative HPA project. The Terms Sheet sets out the defined pathway to the structuring and progressive staging of the HPA project from development to commercial HPA production.

Under the Terms Sheet, the proposed project timetable provides for the implementation of a 3-stage development that encompasses the technology development, engineering / approvals and construction / operations phases of the schedule. The three-stage development manages both the planned demonstration and commercial sized facility.



Schematic outline of the Three Stage HPA joint development project outline

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DEVELOPING A WORLD CLASS INTEGRATED HIGH PURITY ALUMINA (HPA) PROJECT

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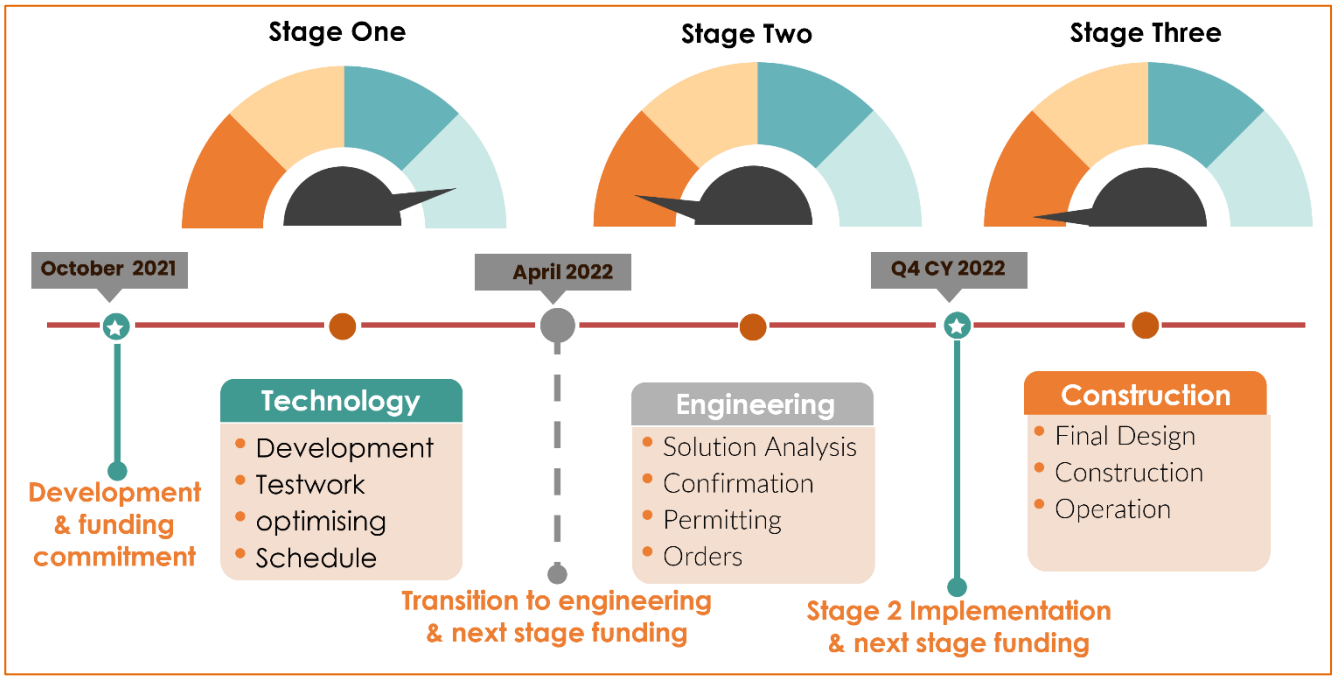
Since the signing of the Term Sheet, the HPA project has progressed significantly. The Stage One scope of works (technology development) is virtually completed and awaiting final sign-off by the joint development team. The Stage Two (engineering) scope of works is well underway and is progressing independently of the Stage One scope of works.

The Stage One completion sign-off represents a significant milestone in the progress of the HPA project as advances in the project development are recognised through various key project gateways being achieved.



Schematic of the Three Stage HPA JV project development schedule

Extended Pilot Plant Operations

During the quarter, FYI in collaboration with Alcoa, continued the extended pilot plant trials commenced during the December 2021 quarter.

The extended pilot plant schedule was designed to provide long duration / steady state operational performance data to demonstrate the effectiveness and efficiency of the innovative HPA process design and to validate the outstanding project economics highlighted in the Company's published definitive feasibility study (**DFS**) (refer announcement 8 April 2021).

The pilot plant trials are critical to the success of the project development and ultimately to the commercialisation of FYI's innovative HPA production process.

Through the series of pilot trial programs, the development team has gained greater understanding of the very challenging chemistry and technology application for the production of HPA. The pilot plant test work program has incorporated many process refinements and design improvements over the course of the previous campaigns. These enhancements have been designed and applied to the development design with the objective to improve the efficiencies of the process as well as to potentially improve the overall project economics.

The primary objectives of the joint extended pilot plant operations were to trial improvements made to the process flowsheet, including materials of construction and materials handling and to determine the positive impact to capital and operating costs as well as scale up factors for commercial production.

An additional benefit of the extended production run was the production of larger quantities of HPA samples that will be directed towards product qualification and assessment by prospective customers and offtake parties.

The extended pilot plant operations undertaken during the quarter proved successful in the trial objectives. Of note was the excellent continued steady state performance and the achieving of target grades.

Images of the HPA pilot plant trials in operation during the Quarter

Outstanding Results continue from Pilot plant

The joint HPA development team of FYI and Alcoa operated the extended pilot plant trails from the 18th to the 25th January 2022 in the Quarter. Samples across all stages of the series of operations were sent to an independent laboratory for high level Glow Discharge Mass Spectrometry for high accuracy analysis of the HPA grades. A summary analysis table is provided below:

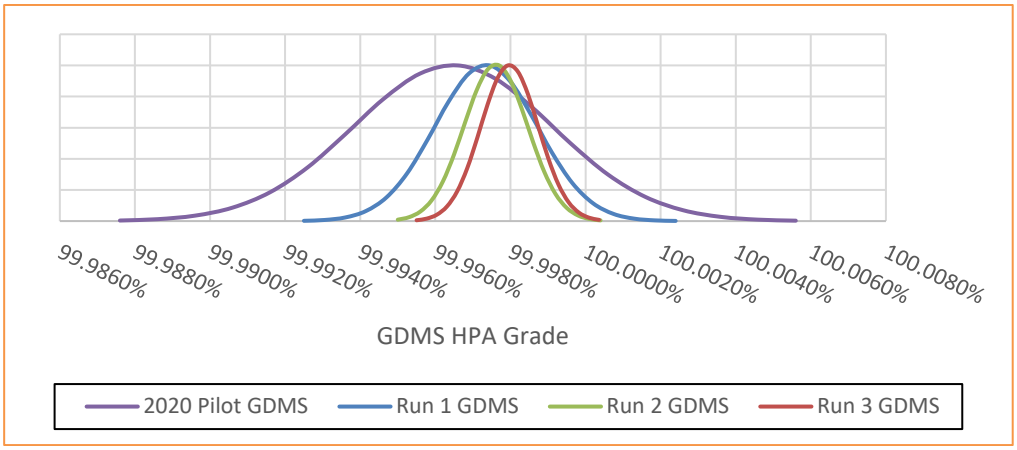
		Sample 1	Sample 2	Sample 3	Sample 4	Sample 5*
HPA (Al_2O_3) Grade	%	**99.998%**	**99.998%**	**99.997%**	**99.998%**	**99.999%**

** Sample 5 is a repeat analysis of Sample 4*

Results from Week Three of the extended pilot plant trial conducted from 18th to 25th January 2022 jointly with Alcoa.

The pilot plant trial utilizing feedstock provided by Alcoa achieved purity ranging from **99.999%** to **99.997%** Al_2O_3. The high purity and tight range of the results demonstrate the efficiency and consistency of FYI's process – particularly over an extended production run.

The following graph demonstrates the measurable quality improvements made of the extended pilot plant trials.



Purity distribution graphs of the extended pilot plant trial results - Week 1 to 3 (Run 1 to 3)

The results demonstrate the progress being made with our development in terms of increased purity consistently being achieved and the closer operating range demonstrating process consistency.

Advisor Appointment – Mr. Phil Thick – Corporate Consultant

FYI appointed Mr. Phil Thick as an advisor to FYI during the quarter. Mr. Thick is an experienced senior executive specialising in project development in the battery and energy related industries.

Mr. Thick has achieved success in senior roles, both executive and non-executive, in a number of companies including Tianqi Lithium, Shell Australia, Coogee Chemicals and Alcoa Australia.

His extensive experience at global, national and project level will be invaluable in providing FYI with strategic advice and corporate assistance to help progress the development of FYI's HPA project with Alcoa and other downstream and value-add battery mineral opportunities identified by FYI.

FYI will continue to make key personnel appointments as the HPA project builds momentum and increases in scale and downstream opportunities are commercialised.

Innovative HPA Anode Coatings

FYI, in parallel with its primary HPA project development, is investigating broader growth and downstream opportunities to create additional value-add market applications for HPA. These downstream opportunities are consistent with FYI's longer-term business plan and of the joint HPA development strategy with Alcoa.

In collaboration with ASX listed graphite company, EcoGraf Limited (ASX:EGR), FYI is developing an innovate HPA enhanced (doped), high density battery anode coatings material for use in the lithium-ion battery industry.

The joint development anode development program is aimed at increasing the performance, reliability, longevity, safety and cost effectiveness of high power density batteries through the innovative application of FYI's high-quality ultrafine HPA and EcoGraf's spherical graphite. The program is complementary to both companies' downstream development objectives.

Supported by the testwork undertaken by a leading independent battery materials research group in the U.S., FYI and EcoGraf have demonstrated HPA-doped carbon coatings as a major active material (AAM) which improves battery anode performance, by minimising first cycle losses during battery charging cycles.

To determine the effectiveness of the jointly developed anode technology, the anode was subjected to extensive electrochemical performance and cycling tests, which reflects pouch and cylindrical battery technologies that are used to power an electric vehicle (**EV**).

The following table presents the lithium-ion coin cell electrochemical performance results benchmarked against current industry anode material.

	Coated Anode	FYI HPA-Doped Coated Anode	Industry Market Anode
Reversible capacity (mAh/g)	353.4	**362.7**	355
First cycle loss (%)	5.2%	**4.5%**	7.0%
First Charge efficiency (%)	94.8%	**95.5%**	93.0%

First cycle charge-discharge curves were developed for the FYI anode coating materials which demonstrated higher first charge capacity, reduced first cycle loss and increased charge efficiency than industry "best in class" material.

The FYI HPA coated anode achieved a reversible capacity in the order of 353.4 mAh/g with irreversible first cycle loss amounting to merely 5.2%. These are excellent results and makes the FYI and EcoGraf coated anode a superior performing Lithium-ion anode material.

The performance of the FYI HPA-doped coated anode was outstanding. The HPA-doped coated spherical graphite outperformed current industry standard material. This may translate into significant value-add opportunities.

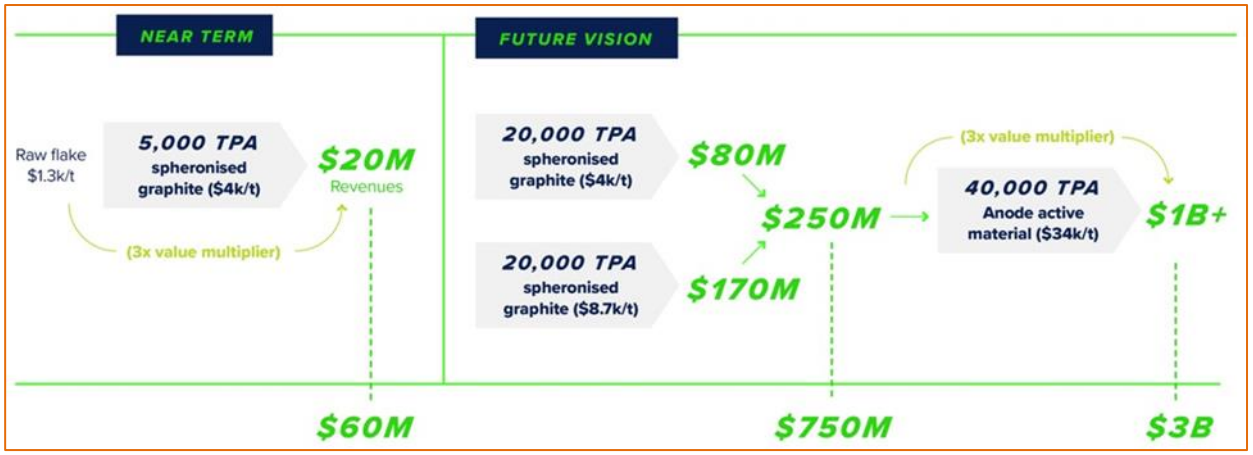


Figure after CSIRO. Dr Jerad Ford, Mission Lead, Critical Energy Metals recent webinar outlying the future vision and value multiplier of battery cell manufacturing benefit to Australia

The value-add opportunity is compelling as Benchmark Minerals Intelligence reports premium sales price for coated anode (subject to the specification) ranges between US$6,000 to US$10,000 per tonne, with demand forecast to increase 30%pa to 20,000tpa by 2030. This demand is driven by the global trend in the adoption of EVs and of the world transitioning to low carbon emission technologies.

The downstream value-add impact of developing AAM in Australia is significant as the battery anode coatings industry could be a substantial value proposition given the forecast increased demand for anode materials in the rapidly expanding EV market.

The collaboration with Ecograf will also include evaluation of additional HPA and graphite composites for new battery technologies and materials for broader clean energy applications.

High Purity Alumina added to the National Critical Minerals list

The Australian Federal Government took the strategic step in March 2022 of elevating HPA to the priority list of critical minerals.

Critical minerals are metals and non-metals that are considered vital for the economic well-being of the world's major and emerging economies, yet whose supply may be at risk due to reasons of geological scarcity, geopolitical issues, trade policy or other factors. The list is based on global technology needs, particularly around electrification, advanced manufacturing and defense.

HPA is a sought-after material due to its unique chemistry and physical characteristics. HPA's primary use is as a base in the manufacture of Phosphors, sapphire glass and substrates for applications such as light-emitting diodes (**LED**s), however HPA is increasingly being applied to multiple battery and energy storage applications such as ceramic coating of the separator membrane and specialised anode coatings in high energy density batteries such as those used in Lithium-ion cells in electric vehicles.

FYI's HPA project strongly aligns with the Australian Federal Government's policy s which seeks higher standards of input materials and increased environmental and social governance (**ESG**) of the battery minerals supply chains. The inclusion of HPA into the National Critical Minerals list signifies the importance that the material has in modern high-tech applications and reduced carbon future.

Qualified for DTC Electronic Clearing in the United States

In February 2022, FYI qualified for the DTC exchange to allow real time electronic stock clearing and settlement in North America for the Company's OTCQX-traded common shares. FYI trades on the OTCQX under the symbol "FYIRF".

Managed by the Depository Trust & Clearing Corporation ("DTCC") in the United States, the DTC provides real time quotes for FYI on the OTC markets for US investors as well as providing current financial disclosures and Company reports / announcements.

Advantages having DTC qualification on the OTCQX include:

- Simplified trading in US for investors
- Stock (equities) trades are completed and settled in US dollars
- Trading in the North American time zone
- Increased liquidity in FYI trading

FYI's OTCQX FYIF shares are the same class of ordinary shares as FYI's ASX traded stock (ASX: FYI). Both shares are fully fungible and registered in two different countries.

Environment Social Governance (ESG)

ESG issues are growing in importance globally. The ability to manage ESG risks and opportunities is increasingly important to FYI's license to operate, the shaping of its business and the future impact on the Company's bottom line.

Through the directives and guidance of our ESG Director, Dr Sandy Chong who is providing practical, value driven sustainability strategies for FYI. In addition to achieving stronger ESG position, FYI will be exploring further opportunities that strengthen its environmental standing, community engagement and sustainability

ESG Reporting and Quarterly ESG Activity Summary

FYI acknowledges its responsibilities as an emerging low carbon producer and the project's sustainability and ESG obligations.

Under our globally recognised ESG rating framework, FYI has established a baseline standard and intends to improve on these standards, reduce its legacy and potential environment impacts, as well as other sustainability project risks. FYI has made the commitment to incrementally improve upon its ESG score of 23.8 (ESG ranking of 5th out of 153 peers)

FYI's Quarterly ESG Progress Report

ESG Go Dashboard - Reporting Period 1

			MATERIAL	PRIORITY	TIMEFRAME		DISCLOSURE	MATURITY A1	A2	A3	A4	A5
GOVERNANCE	GO-01-A	Setting purpose	Y	Y	Q2	2021	D	D	D			
	GO-02-A	Governance body composition	Y	Y	Q2	2021	D	D				
	GO-03-A	Material issues impacting stakeholders	Y	Y	Q2	2021	R	R	R	R	R	D
	GO-04-A	Anti-corruption practices	Y	Y	Q2	2021	R	R	D	D		
	GO-04-B	Mechanisms to protect ethical behaviour	Y	Y	Q3	2021	D	R	D			
	GO-05-A	Integrating risk and opportunity into business process	Y	N	Q3	2021	D	R	D			
PLANET	PL-01-A	GHG emissions	Y	N	Q4	2021	D	D				
	PL-01-B	TCFD implementation	Y	N	H1	2022	D					
	PL-02-A	Land use and ecological sensitivity	Y	Y	Q2	2021	D	R				
	PL-03-A	Water consumption	Y	Y	Q2	2021	R	R				
PEOPLE	PE-01-A	Diversity and inclusion	Y	N	Q3	2021	D	D				
	PE-01-B	Pay equality	Y	N	Q3	2021	D	D				
	PE-01-C	Wage level	Y	N	Q3	2021	D	D	D			
	PE-01-D	Child, forced or compulsory labour	N	N	-	-	E					
	PE-02-A	Health and safety	Y	N	Q3	2021	D	D	D			
	PE-03-A	Training provided	Y	N	Q4	2021	D					
PROSPERITY	PR-01-A	Rate of employment	Y	N	Q4	2021	D					
	PR-01-B	Economic contribution	Y	N	Q4	2021	D					
	PR-01-C	Financial investment contribution	Y	N	Q4	2021	D					
	PR-02-A	Total R&D expenses	Y	Y	Q2	2021	R	R				
	PR-03-A	Total tax paid	Y	Y	Q2	2021	R	R				

FYI's Quarterly ESG Progress Report (continued)

FYI Resources

ASX:FYI

Progress Dashboard - Period 4 (Jan to Mar 2022)

Status		Progress	
D	Draft	P	In progress
R	Reported	C	Completed
V	Verified	N	Not applicable
A	Audited		

GOVERNANCE

Code	Description	Type	Last Updated	Status	Progress (A1-A5)
GO-01-A	Setting purpose	Full disclosure	22 Apr 2022	D	C C C P P
GO-02-A	Governance body composition	Full disclosure	22 Apr 2022	D	P C C C C
GO-03-A	Material issues impacting stakeholders	Full disclosure	22 Apr 2022	R	C C C C C
GO-04-A	Anti-corruption practices	Full disclosure	22 Apr 2022	R	C C C
GO-04-B	Mechanisms to protect ethical behaviour	Full disclosure	22 Apr 2022	V	C C
GO-05-A	Integrating risk and opportunity into business process	Full disclosure	22 Apr 2022	D	C C C P

PLANET

Code	Description	Type	Last Updated	Status	Progress (A1-A5)
PL-01-A	GHG emissions	Full disclosure	22 Apr 2022	D	C P P
PL-01-B	TCFD implementation	Full disclosure	22 Apr 2022	D	C
PL-02-A	Land use and ecological sensitivity	Full disclosure	22 Apr 2022	D	C C P
PL-03-A	Water consumption	Full disclosure	22 Apr 2022	R	C P C P

PEOPLE

Code	Description	Type	Last Updated	Status	Progress (A1-A5)
PE-01-A	Diversity and inclusion	Full disclosure	22 Apr 2022	D	P P P P
PE-01-B	Pay equality	Full disclosure	22 Apr 2022	D	P
PE-01-C	Wage level	Full disclosure	22 Apr 2022	D	P P
PE-01-D	Child, forced or compulsory labour	Explanation	22 Apr 2022	R	
PE-02-A	Health and safety	Full disclosure	22 Apr 2022	D	C P
PE-03-A	Training provided	Full disclosure	22 Apr 2022	D	C C

PROSPERITY

Code	Description	Type	Last Updated	Status	Progress (A1-A5)
PR-01-A	Rate of employment	Full disclosure	22 Apr 2022	D	P C
PR-01-B	Economic contribution	Full disclosure	22 Apr 2022	R	C C
PR-01-C	Financial investment contribution	Full disclosure	22 Apr 2022	D	
PR-02-A	Total R&D expenses	Full disclosure	22 Apr 2022	V	C
PR-03-A	Total tax paid	Full disclosure	22 Apr 2022	V	C

March Quarter Activities Achieved include:
The activities completed during the quarter include:

- ✓ Steady development progress of the Demonstration and Primary HPA production facility
- ✓ Successfully completed extended pilot plant trial series
- ✓ Continued product market qualification and assessment in collaboration with Alcoa
- ✓ Implement initial technical program to produce and evaluate HPA coated spherical graphite anodes for EV battery use
- ✓ Continue with other identified growth and downstream opportunities
- ✓ Achieved eligibility for electronic share trading on OTCQX through DTC clearing platform
- ✓ Progressed ESG rating and reporting

Planned June Quarter Activities include:
The planned activities for the quarter include:

- Stage1 project development expected to be signed off in May
- Stage 2 stage work stream well under way
- Progress HPA project joint development with Alcoa
- Progress drafting of Joint Venture Agreement
- Continue HPA-doped carbon coated battery spherical graphite study
- HPA product market qualification and assessment in collaboration with Alcoa continues
- Continual improvement of ESG rating and reporting

Treasury
The Company ended the March Quarter with a cash balance of ~ $12.1m.

ASX Additional Information
ASX listing rule 5.3.1 and 5.3.2 - Exploration and evaluation cash payments (net of GST) during the quarter were approximately $155k. Details of exploration, evaluation and development activities during the December 2021 quarter are set out in this report.

There were no substantive mining production activities during the quarter.

ASX listing rule 5.3.5 - Appendix 5B, Section 6.1 – description of payments: During the quarter $128k was paid to Directors for director fees and applicable superannuation.

This announcement is authorised for release by Roland Hill, Managing Director

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Interest in Mineral Tenements at 31 March 2022

Tenement	Location	Interest at the beginning of the quarter	Interest at the end of the quarter
E70/4673	Western Australia	100%	100%
M70/1388		100%	100%
WMM SPLs (6)	Thailand	100% (under application)	100% (under application)

About FYI Resources Limited

FYI's is positioning itself to be a significant producer of 4N and 5N HPA in the rapidly developing high-tech product markets.

FYI applies both an ESG and economic overlay of the Company and its operations to ensure long-term sustainable and shareholder value is created via the development of the Company's innovative, high quality, ultra-pure HPA project.

HPA is increasingly becoming the primary sought-after input material for certain high-tech products principally for its unique properties, characteristics and chemical properties that address those applications high specification requirements such as LED's and other sapphire glass products.

The longer-term driver for HPA, with forecasts of >17% CAGR*, is the outlook for the burgeoning electric vehicle and static energy storage markets where the primary function is in the use as a separator material between the anode and cathode in batteries to increase power, functionality and safety of the battery cells.

The foundation of the HPA strategy the Company's moderate temperature, atmospheric pressure innovative process flowsheet. The strategy's quality attributes combine resulting in world class HPA project potential.

** CRU HPA Industry Report 2021*